

Date: Monday, 12/10/2007 12:04:32 PM  
 User: Kim Johnston

## Process Sheet

|  |                                     |
|--|-------------------------------------|
| Customer : CU-DAR001 Dart Helicopters Services | Drawing Name : LEFT ARM WELDMENT    |
| Job Number : 36232                             |                                     |
| Estimate Number : 12080                        |                                     |
| P.O. Number : <u>N/A</u>                       | Part Number : D33543                |
| This Issue : 12/10/2007 S.O. No. : <u>N/A</u>  | Drawing Number : D3354 <u>REV C</u> |
| Prsht Rev. : NC                                | Project Number : N/A                |
| First Issue : <u>N/A</u> Type : MACHINED PARTS | Drawing Revision : <u>B/C</u>       |
| Previous Run : 31588                           | Material : <u>N/A</u>               |
| Written By : _____                             | Due Date : 12/24/2007               |
| Checked & Approved By : _____                  | Qty: <u>8</u> Um: <u>9</u> Each     |
| Comment : est rev A 06.01.23 new issue EC      |                                     |

## Additional Product

Job Number:



|         |                       |               |
|---------|-----------------------|---------------|
| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|

|     |             |                 |
|-----|-------------|-----------------|
| 1.0 | M4130NR1250 | 4130N ROUND BAR |
|-----|-------------|-----------------|



Comment: Qty.: 0.6300 f(s)/Unit Total : 5.0400 f(s) 6.25'  
 AISI 4130 ROUND BAR 1.250" dia. batch: M104182

20 07/12/17

|     |          |                          |
|-----|----------|--------------------------|
| 2.0 | HARDINGE | HARDINGE CNC LATHE SMALL |
|-----|----------|--------------------------|



Comment: 1-TURN AS PER FOLIO FA623 & DWG D3354  
 FOLIO REV: AA 13  
 DWG REV: RUC

2-DEBURR AS REQUIRED

20 07/12/17

|     |     |  |
|-----|-----|--|
| 3.0 | QC2 | INSPECT PARTS AS THEY COME OFF MACHINE |
|-----|-----|--|



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

20 07/12/17

(9)

|     |               |                              |
|-----|---------------|------------------------------|
| 4.0 | MILLING CONV. | CONVENTIONAL MILLING MACHINE |
|-----|---------------|------------------------------|



Comment: CONVENTIONAL MILLING MACHINE  
 1-Drill cotter pin hole as per dwg D3354

2-Deburr

20 07/12/18 (9)

|     |     |              |
|-----|-----|--------------|
| 5.0 | QC8 | SECOND CHECK |
|-----|-----|--------------|



Comment: SECOND CHECK

SA 01.12.18

(9)

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: D Date: 07/12/17  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

Date: Monday, 12/10/2007 12:04:32 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: LEFT ARM WELDMENT

Job Number: 36232

Part Number: D33543

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: PAT D

*W*

*JS 09/12/18*

*(X9)*

7.0

QC21

FINAL INSPECTION/W/O RELEASE



*(9)*

Comment: FINAL INSPECTION/W/O RELEASE

*JS 12/18*

Job Completion



*min 2007/12/18*  
*W*

# Dart Aerospace Ltd

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

|   |  |                     |         |
|---|--|---------------------|---------|
| <b>DART AEROSPACE LTD</b>                           |  | <b>Work Order:</b>  |         |
| <b>Description:</b> Wheel Shaft                     |  | <b>Part Number:</b> | D3354-3 |
| <b>Inspection Dwg:</b> D3354 <b>Rev:</b> <i>A C</i> |  | <b>Page 1 of 1</b>  |         |

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article      ☐ Prototype

| Drawing Dimension | Tolerance       | Actual Dimension        | Accept | Reject | Method of Inspection | Comments |
|-------------------|-----------------|-------------------------|--------|--------|----------------------|----------|
| 7.04              | +/-0.030        | <i>7.04</i>             | ✓      |        |                      |          |
| 4.020             | +0.010/-0.000   | <i>4.025</i>            | ✓      |        |                      |          |
| 0.85              | +/-0.030        | <i>0.847</i>            | ✓      |        |                      |          |
| 0.06              | +/-0.030        | <i>0.06</i>             | ✓      |        |                      |          |
| 0.13              | +/-0.030        | <i>0.125</i>            | ✓      |        |                      |          |
| Ø1.250            | +0.001/-0.004   | <i>1.249</i>            | ✓      |        |                      |          |
| Ø1.103            | +0.001/-0.002   | <i>1.103</i>            | ✓      |        |                      |          |
| 0.750 Thread      | +/-0.010        | <i>0.771 over wires</i> | ✓      |        |                      |          |
| 0.03 x 45°        | +/-0.030 x 0.5° | <i>0.034 45°</i>        | ✓      |        |                      |          |
| Ø0.152            | +0.005/-0.001   | <i>0.153</i>            | ✓      |        |                      |          |
| R0.02             | +/-0.030        | <i>R0.015</i>           | ✓      |        |                      |          |
| R0.050            | +/-0.010        | <i>R.05</i>             | ✓      |        |                      |          |
| 0.660             | +/-0.010        | <i>0.660</i>            | ✓      |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |
|                   |                 |                         |        |        |                      |          |

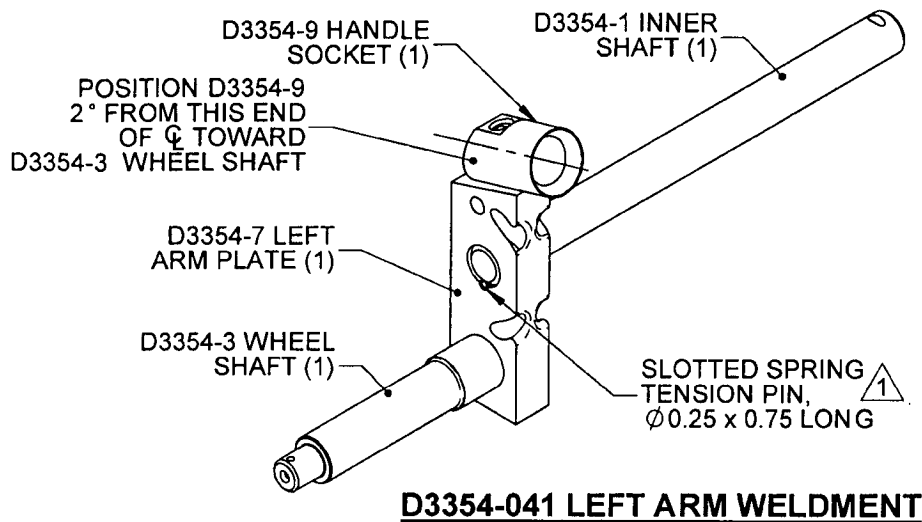
|                               |                               |                            |     |
|-------------------------------|-------------------------------|----------------------------|-----|
| <b>Measured by:</b> <i>RR</i> | <b>Audited by:</b> <i>OWL</i> | <b>Prototype Approval:</b> | N/A |
| <b>Date:</b> <i>07/12/17</i>  | <b>Date:</b> <i>07/12/18</i>  | <b>Date:</b>               | N/A |

| Rev | Date     | Change                   | Revised by       | Approved  |
|-----|----------|--------------------------|------------------|-----------|
| A   | 07.01.17 | New Issue                | KJ/JLM           |           |
| B   | 07.04.20 | Ø0.152 dimension removed | KJ/JLM <i>KA</i> | <i>KA</i> |

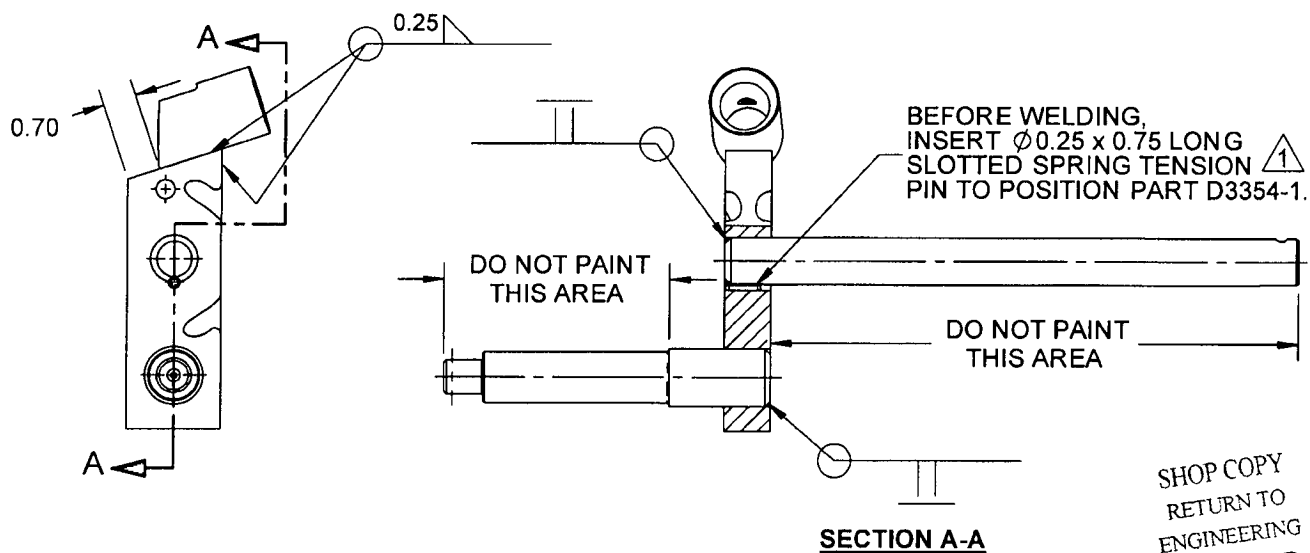


|                         |                       |   |                        |
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| CHECKED<br><i>LB</i>    | APPROVED<br><i>W</i>  | DRAWING NO.<br><b>LEFT ARM WELDMENT</b>                                 | REV. C<br>SHEET 1 OF 7 |
| DATE<br><b>07.12.06</b> |                       | TITLE<br><b>D3354</b>   | SCALE<br>1:4           |
| REV                     | DATE                  | DESCRIPTION   |                        |
| A                       | 04.12.13              | NEW ISSUE   |                        |
| B                       | 07.02.02              | REVISED DIMENSIONS  |                        |
| C                       | 07.12.06              | CHANGE TOLERANCE ON D3354-7 LEFT ARM PLATE HOLE FOR D3354-3 WHEEL SHAFT |                        |

**RELEASED**  
07/12/07 *W*



**D3354-042 MIRROR  
ARM WELDMENT**



**NOTES:**

- 1) POSSIBLE SUPPLIER: SPAENAU, P/N TP-134
- 2) WELD PER DART QSI 004
- 3) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.010 TO 0.020

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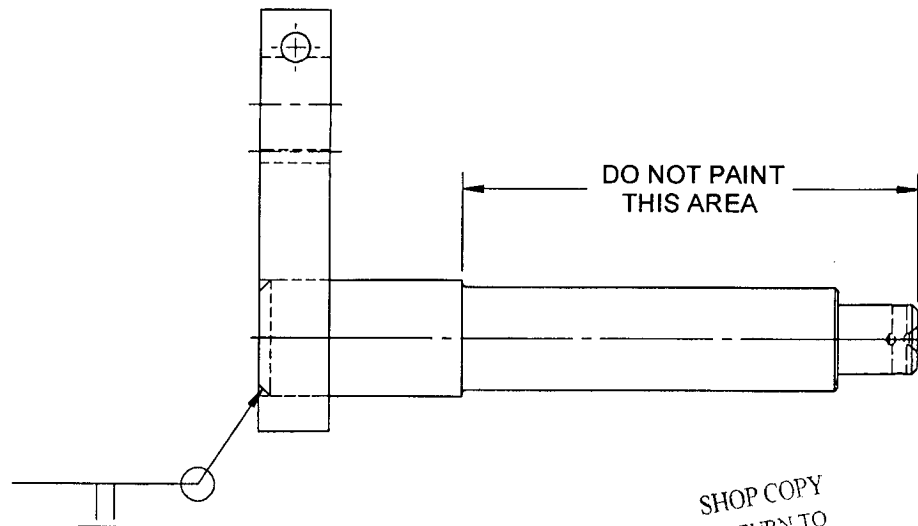
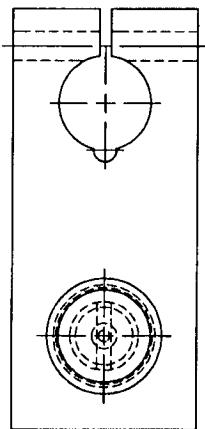
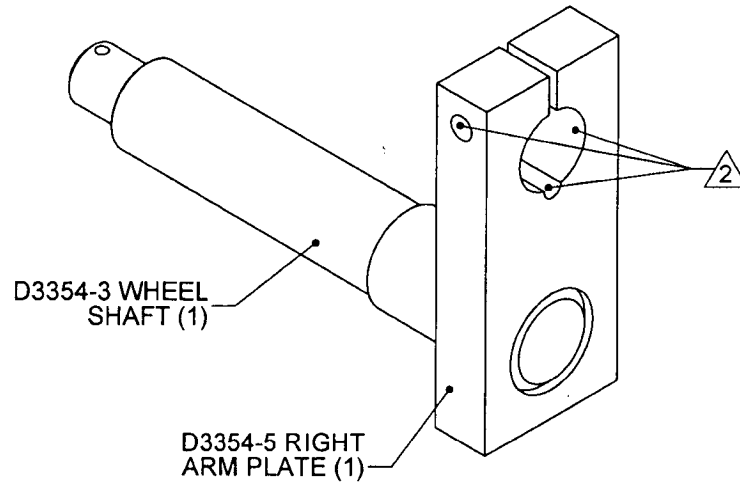
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| DATE<br><b>07.12.06</b>       |                                | TITLE<br><b>LEFT ARM WELDMENT</b>                        | SCALE<br>1:2           |

RELEASED  
07/12/07 *[Signature]*



**D3354-043 RIGHT ARM WELDMENT**

**NOTES:**

- 1) WELD PER DART QSI 004
- 2) COVER INSIDE HOLES PRIOR PAINTING
- 3) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.010 TO 0.020

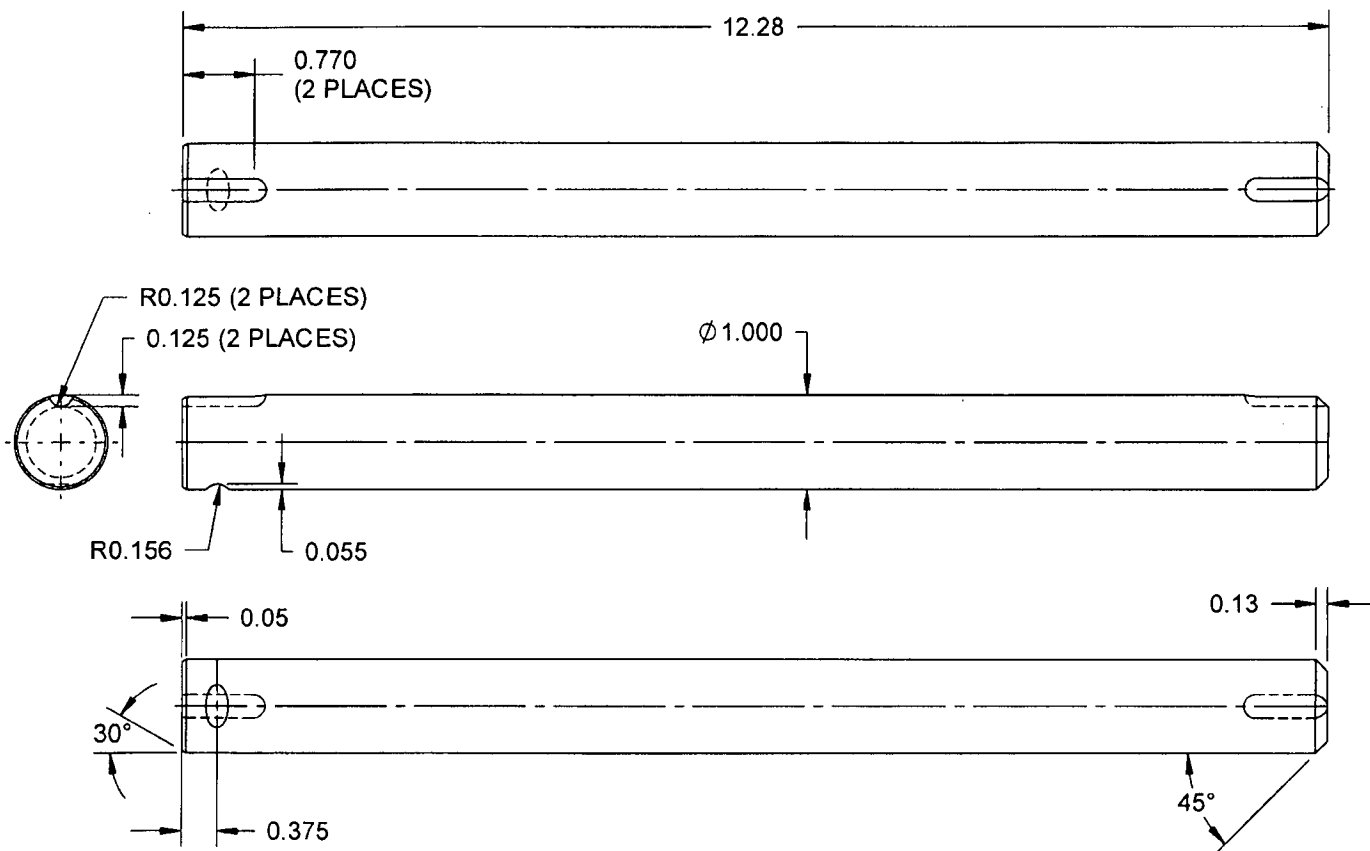
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| CHECKED<br><i>g</i>     | APPROVED<br><i>MP</i> | DRAWING NO.<br><b>D3354</b>                              | REV. C<br>SHEET 3 OF 7 |
| DATE<br><b>07.12.06</b> |                       | TITLE<br><b>LEFT ARM WELDMENT</b>                        | SCALE<br>1:2           |

**RELEASED**  
*07/12/07 WP***D3354-1 INNER SHAFT****NOTES:**

- 1) MATERIAL: AISI-4140 OR ASTM A304-02/ A-434-BC / A193-03 - GRADE-B7/ A29-03/ A322-91 OR UNS#-G41400 ROUND BAR,  $\phi 1.250$  (REF. DART SPEC. M4140H-R)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

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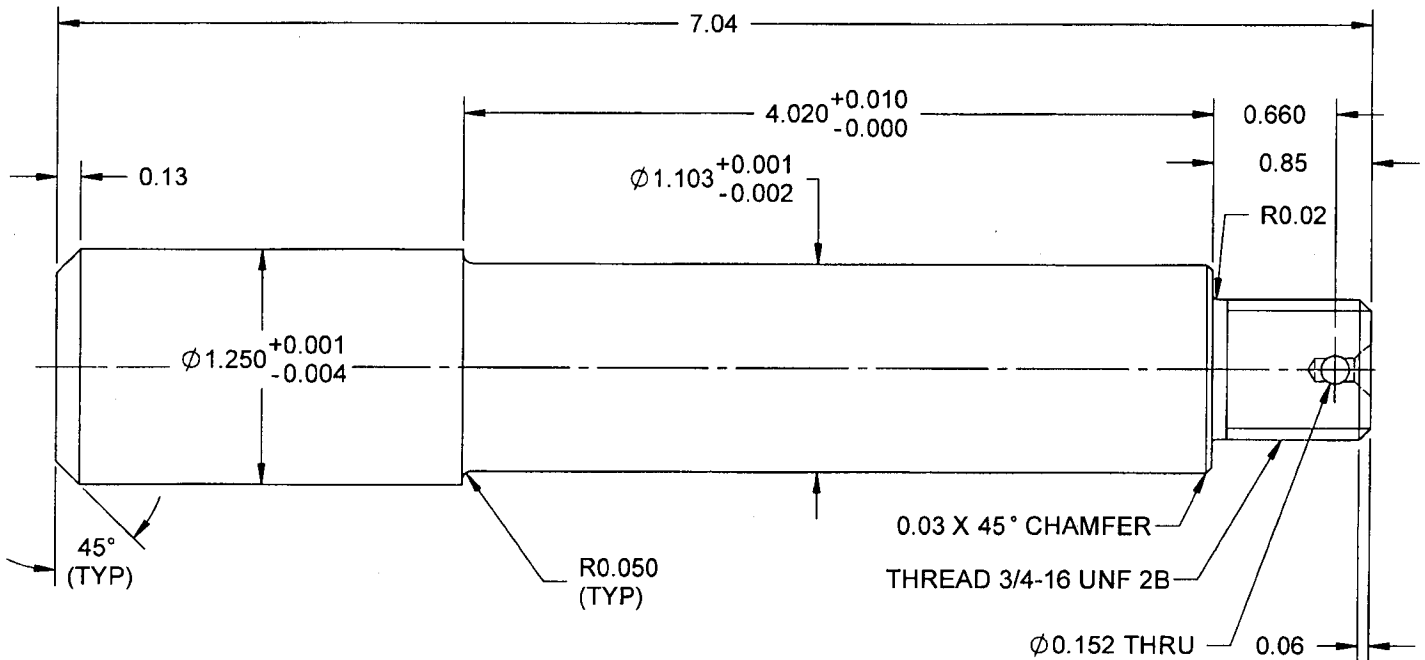
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| DATE<br><b>07.12.06</b>       |                                | TITLE<br><b>LEFT ARM WELDMENT</b>                 | SCALE<br>1:1           |

**RELEASED**  
07.12.07 *[Signature]***D3354-3 WHEEL SHAFT**

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**NOTES:**

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- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

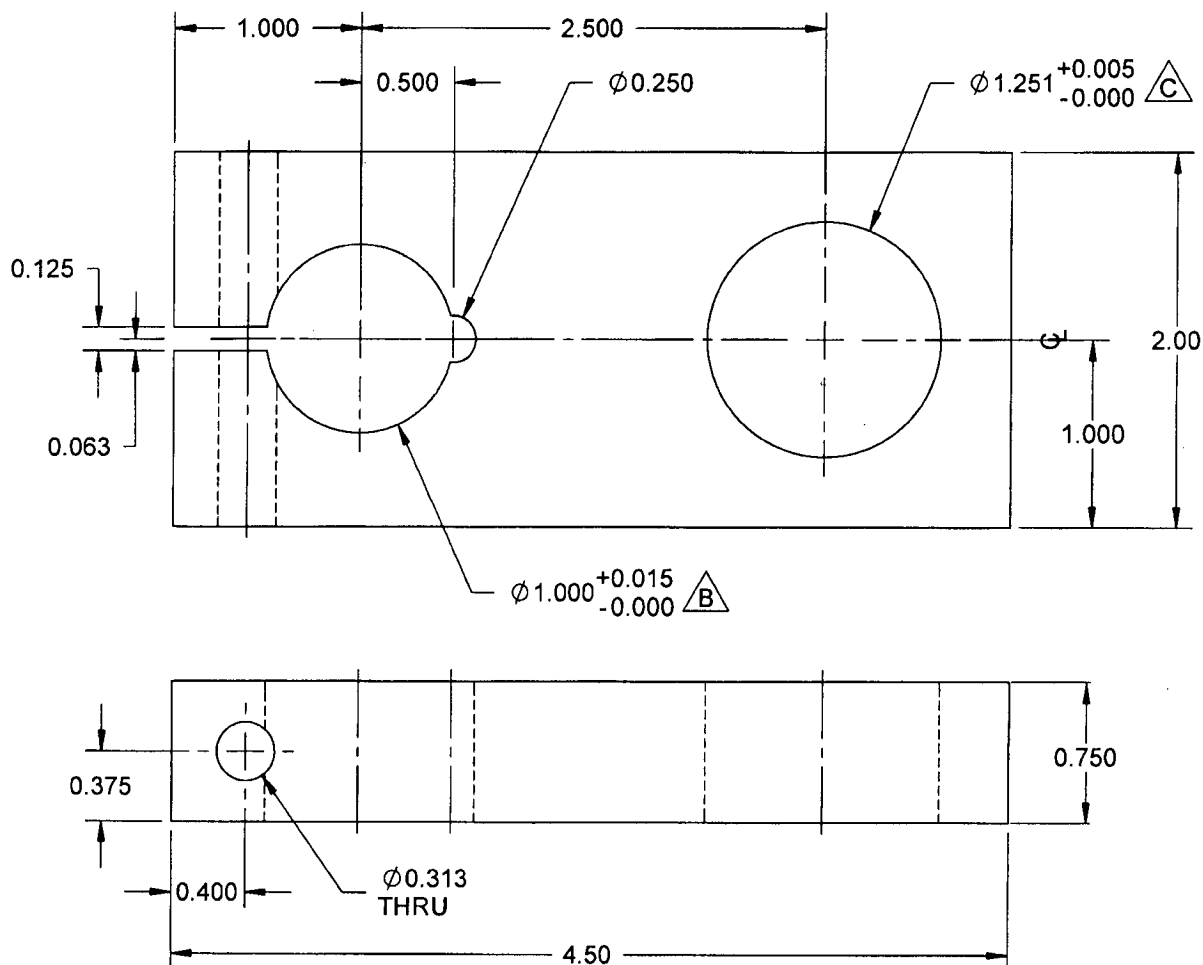
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| CHECKED<br>[Signature]  | APPROVED<br>[Signature] | DRAWING NO.<br><b>D3354</b>                              | REV. C<br>SHEET 5 OF 7 |
| DATE<br><b>07.12.06</b> |                         | TITLE<br><b>LEFT ARM WELDMENT</b>                        | SCALE<br>1:1           |

RELEASED  
07/12/07 [Signature]



### D3354-5 RIGHT ARM PLATE

#### NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR CSA G40.21, 38W/44W/50W/60W/70W, 0.75 THICK MILD STEEL BAR (REF. DART SPEC. M1010-B)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

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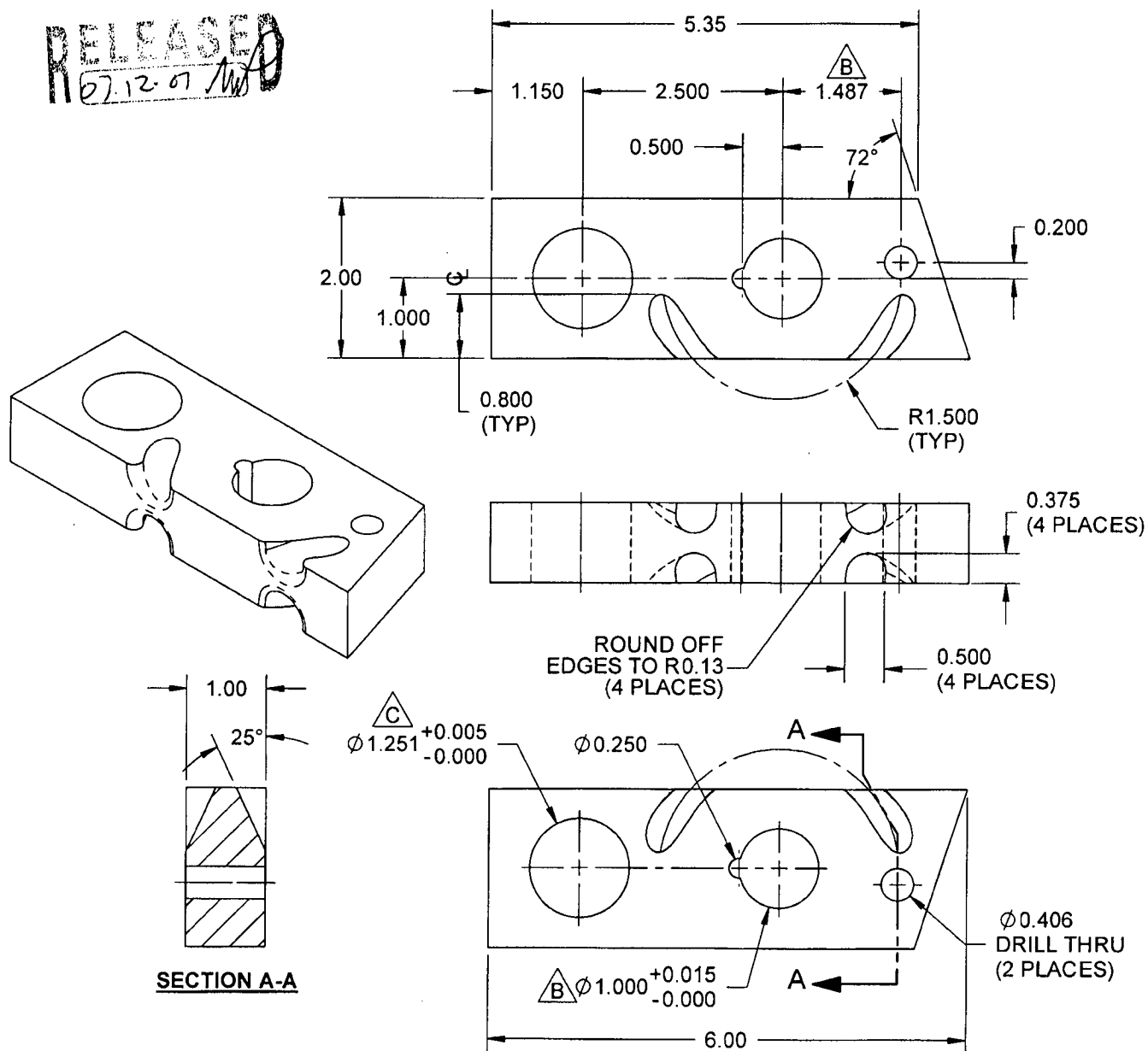
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| CHECKED<br><i>LA</i>    | APPROVED<br><i>MP</i> | DRAWING NO.<br><b>D3354</b>                              | REV. C<br>SHEET 6 OF 7 |
| DATE<br><b>07.12.06</b> |                       | TITLE<br><b>LEFT ARM WELDMENT</b>                        | SCALE<br>1:2           |

RELEASED  
07.12.07 *MP*



### D3354-7 LEFT ARM PLATE

#### NOTES:

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR CSA G40.21, 38W/44W/50W/60W/70W, 1.00 THICK MILD STEEL BAR (REF. DART SPEC. M1010-B)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

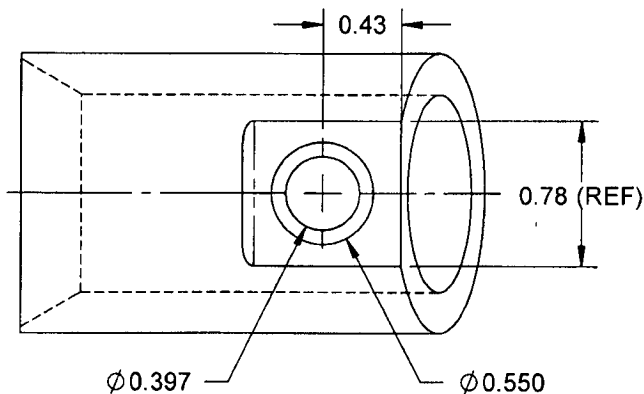
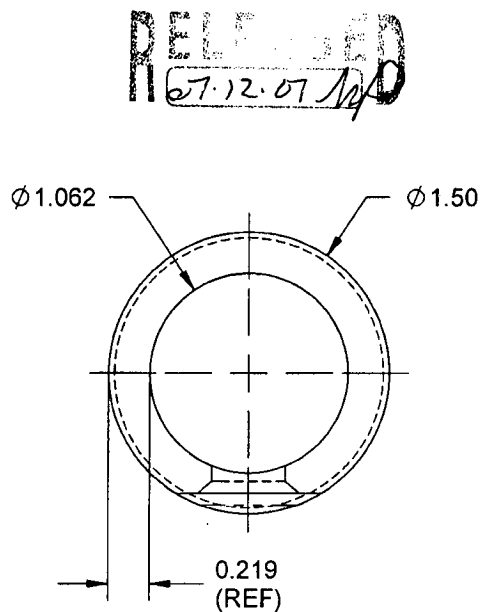
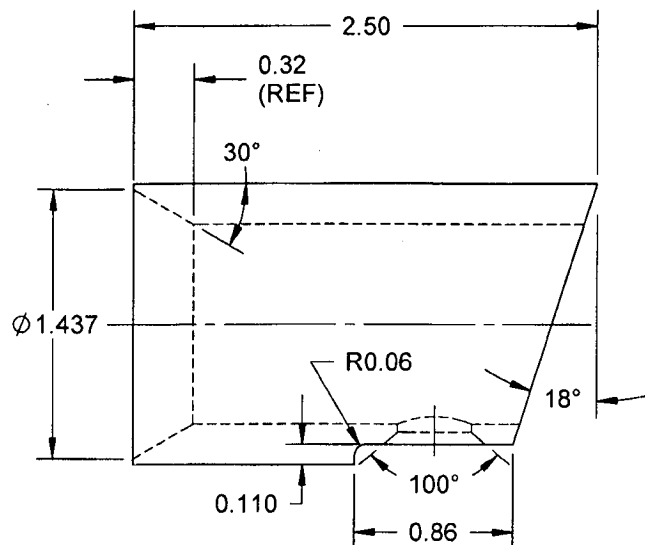
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| CHECKED<br><i>LS</i> | APPROVED<br><i>MP</i> | DRAWING NO.<br>D3354                              | REV. C<br>SHEET 7 OF 7 |
| DATE<br>07.12.06     |                       | TITLE<br>LEFT ARM WELDMENT                        | SCALE<br>1:1           |



### D3354-9 HANDLE SOCKET

#### NOTES:

- 1) MATERIAL: AISI 1010-1025 SEAM LESS ROUND TUBING PER MIL-T-5066 OR ASTM A513-00 MT1020 SRA OR AMS 5075 OR AMS 5077, (REF. DART SPEC. M1020TR1.250W.219)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

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